CLAIMS:

1. An object tracking system comprising four or more sensors at different sites, each sensor being capable of detecting a signal from an object, and control means for repeatedly, in response to the outputs of the sensors, selecting a sub-set of the sensors and determining the amount by which the times at which the sensors of the sub-set receive the signal are delayed with respect to each other to enable calculation of the current location of the object.

2. A system as claimed in claim 1, wherein the control means is responsive to detecting that a parameter of a sensor output exceeds a predetermined detection threshold level for selecting said sub-set.

3. A system as claimed in claim 2, wherein the control means is operable to determine whether a sensor belongs to said sub-set in dependence upon, at least, whether the sensor output exhibits a parameter which exceeds a second threshold level different from said first-mentioned threshold level.

4. A system as claimed in any preceding claim, including means for processing an output from a first sensor of said sub-set in accordance with a signal representing the time at which predetermined events occur within an output from a second sensor of said sub-set, in order to determine the delay between the receipt of the signal by the first and second sensors.

5. A system as claimed in claim 4, including means for forming a combination of segments of said output of said first sensor, the segments being staggered with respect to each other by intervals corresponding to the delays between the events in the output of the second sensor, and means for determining said time delay from the position of a feature within said combination.

6. A system as claimed in claim 4 or claim 5, wherein each said sensor forms part of a respective sensor device which is operable in a master mode to transmit data representative of the occurrence of said events, and in a slave mode to process the output of its sensor with received data representative of the occurrence of events in the output of another sensor in order to determine said time delay.

7. A system as claimed in claim 6, wherein said control means is operable to cause one of the sensor devices of the sub-set to operate in the master mode, and the other sensor devices of said sub-set to operate in the slave mode.

8. A sensor device for use in an object location system comprising multiple sensor devices at different sites, the sensor device comprising a sensor and means responsive to a received control signal for switching the device between:

(a) a master mode, in which the device is operable to transmit data derived from a signal from an object which is sensed by said sensor; and

(b) a slave mode, in which the device is operable to process an output of said sensor in accordance with data from another sensor device in order to determine the time delay between receipt of signals by the sensors of the respective devices;

the sensor device further comprising means for transmitting data representative of the determined time delay.

9. A sensor device as claimed in claim 8, wherein, in the master mode, the device is operable to transmit data indicative of the time at which predetermined events occur within the output of the sensor, the device being operable in the slave mode to use the received data to define segments of the output of the sensor which are staggered with respect to each other by intervals corresponding to the delays between successive events defined by the second data, to form a combination of the segments, and to determine, from the position of a feature within said combination, said time delay.

10. A sensor device as claimed in claim 9, wherein the predetermined events correspond to times at which the level of the sensor output increases above and decreases below a predetermined level, and wherein the said combination is formed by summing the samples.

11. A system for determining the location of an object, the system comprising:

three or more sensors at different sites and each capable of producing a varying signal derived from an object in its field of view, and

calculation means for (a) deriving at least two time measurements each representing the difference in time between a signal produced by a respective one of the sensors and a similar signal produced by a different one of the sensors, and (b) means for calculating the location of the object in dependence upon the time measurements;

wherein each time measurement is derived by:

combining multiple segments of the signal from the respective sensor, the segments being staggered by intervals which correspond to the intervals between predetermined events occurring in the signal generated by said different sensor, and

determining the position within the combination of a predetermined feature.

12. A system as claimed in claim 11, wherein the predetermined events correspond to times at which the level of a sensor output increases above and decreases below a predetermined level, and wherein the said combination is formed by summing the samples.